UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,688	07/30/2001	Marcos Teres	10001329-1	2187

7590 11/02/2005

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER
QIN, YIXING

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

In response to applicant's amendment received 8/19/05, all requested changes have been entered.

Response to Arguments

Applicant's arguments filed have been fully considered. Regarding the Hamilton reference, the Examiner agrees that it does not teach a database correlating the symptoms of a malfunction through the comparison of the symptoms. However, the teachings of Maekawa remedies these deficiencies of Hamilton.

The arguments state the Maekawa reference, "does not even disclose a database relating descriptions of symptoms of printer system malfunctions to known printer malfunctions." The Examiner respectfully disagrees with this. Again, the Examiner would like to focus on Fig. 25 of Maekawa. This table is essentially a database since it stores a collection of information. One can see that columns 2 and 3 contain a condition number and a description of that condition. Column 4, "conclusion" is a list of printer malfunctions. Thus, the Maekawa reference does indeed discloses a database that relates descriptions with known malfunctions. The Maekawa reference has now been cited in combination with the Hamilton reference to teach the newly amended claims. Please see the rejection below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

I.   Claims 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by

Maekawa et al (U.S. Patent No. 5,386,271 – "Maekawa").

13.   Claim 13
A system for diagnosing a malfunction in a printer system, comprising:
- **a database** ~~correlating~~ **relating descriptions symptoms of printer system malfunctions with known printer system malfunctions; and**
- Maekawa discloses in Fig. 25 a chart disclosing various conditions and measures to be taken to alleviate those conditions. As mentioned in the arguments above, the chart does disclose the idea of relating descriptions.
- **a processor configured to collect a present description of one or more symptoms of a present printer system malfunction to compare the present description** ~~one or more symptoms of a present printer system malfunction~~ **to the database** ~~correlations~~ **relationships, to identify a most appropriate malfunction that would produce the** ~~described~~ **symptoms described in the present description, and to report the most appropriate malfunction.**
- Maekawa discloses in Fig. 16 the processing of a CPU in the "center" of the control system (column 2, lines 64-65).
- Column 11, lines, 51-58 and column 12, lines 1-50 discloses the various processing that can occur. Column 12, lines 47-62, especially, discloses the cause of trouble (i.e. can read on **description of symptoms**), possibilities and measures to be taken are displayed (i.e. **most appropriate malfunctions are reported to user**). Also note column 15, lines 11-36, where an example is given that an user can inform that the "image is faint" (i.e. **present description**) and that calculations would be made and compared to the information in the database to draw a conclusion about the necessary step(s) to take to alleviate the problem.

14.   Claim 14
The system of claim 13, where

- **the processor is directly or indirectly linked to the printer system.**
- As discussed in claim 13, the CPU is in the "center" which is linked to the system through a telephone network.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

II.   Claims 1-12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hamilton et al (U.S. Patent No. 5,200,958 – "Hamilton") and in view

of the applicant's submitted prior art in the specification ("Background").

1.   **Claim 1**
A computer-implemented method for diagnosing a malfunction in a printer system using a computer system comprising a processor, the method comprising the steps of:
- **communicating a description of one or more symptoms of the printer system malfunction to the processor;**
- Hamilton discloses in column 8, lines 3-15 discloses that a controller section 7 monitors faults and provides the capabilities to enable an online diagnostic. The controller can identify faults that occur through communication with an electronic reprographic system (column 7, line 57).
- **correlating the one or more symptoms with known printer system malfunctions, <u>wherein correlating the one or more symptoms include comparing the present description of the one or more symptoms to a database relating symptoms to known printer system malfunctions;</u>**
- Hamilton discloses in column 8, lines 18-22 that the diagnostics identify and evaluate faults that can occur within various parts of the system. However, it does not go into detail about the idea of a database as being claimed. As

mentioned above in the arguments, one can see in Fig. 25 of the secondary reference, Maekawa, that columns 2 and 3 contain a condition number and a description of that condition. Column 4, "conclusion" is a list of printer malfunctions. Thus, the Maekawa reference does indeed discloses a database that relates descriptions with known malfunctions. Column 15, lines 11-36 also give an example of how information input by an user (i.e **present** description) can be used in a calculation to determining if a **known printer malfunction** has occurred.

- **identifying a most appropriate malfunction that would produce the described symptoms; and**
- Hamilton discloses in column 9, lines 30-57 various steps taken in more accurately identifying the fault(s) that occurred. Lines 40-48 especially, tries to isolate which part of the system this fault is in. Also see column 10, lines 29-33.
- **reporting the most appropriate malfunction.**
- Also note that in column 8, lines 3-7 that the controller section monitors and "...determines which specific actions will be triggered by the specific faults..." This indicates that Hamilton's system has the ability to pinpoint faults (i.e. **most appropriate**). Column 8, lines 59-63 discloses the reporting of the fault(s) to the user.

2.   Claim 2
The method of claim 1, where
- **the description of the one or more symptoms includes an error log recorded by the printer system.**
- Hamilton discloses in column 7, lines 65-68, that faults are recorded in a fault log.

3.   Claim 3
The method of claim 2, where
- **the printer system includes a printer input device, and the error log includes input device errors.**
- Hamilton discloses in column 8, lines 18-22 that the diagnostic can identify faults within the "...image input, image output, and image manipulation services."

4.   Claim 4
The method of claim 3, where
- **the printer system includes a printer output device, and the error log includes output device errors.**
- Please see claim 3 above.

5.   Claim 5
The method of claim 1, where
- **the description of one or more symptoms of the printer system malfunction is received from the printer system.**

- Hamilton discloses in column 8, lines 3-15 discloses that a controller section 7 monitors faults and provides the capabilities to enable an online diagnostic. The controller can identify faults that occur through communication with an electronic reprographic system (column 7, line 57). The monitoring of the system means that the faults that occurred are received from the system.

6.   Claim 6
The method of claim 1, where
- **the description of one or more symptoms of the printer system malfunction is received from the printer system operator.**
- Although the Hamilton reference discloses the diagnosing of errors using a program, it does not explicitly disclose the reporting of the symptoms from a user. Maekawa discloses this in column 15, lines 21-23, where an user informs that an "image is faint."

7.   Claim 7
The method of claim 1, where
- **the step of communicating includes sending a query from the processor to the printer system and receiving descriptions of one or more symptoms of the printer system malfunction from the printer system.**
- Again, Hamilton discloses in column 8, lines 3-15 discloses that a controller section 7 <u>monitors faults and provides the capabilities to enable an online diagnostic.</u>

8.   Claim 8
The method of claim 1, where
- **the step of reporting includes electronically transmitting a report.**
- Hamilton discloses in column 8, lines 22-28 that <u>a software client</u> provides the means for relaying information.

9.   Claim 9
The method of claim 8, where
- **the report is electronically transmitted via a communications connection with a printer service facility.**
- Although Hamilton disclose the reporting of errors to a user, it does not explicitly disclose that the report can be sent to a service facility. However, the secondary reference, Maekawa, discloses in Fig. 7 and column 7, lines 21-24 that trouble data (i.e. error report) maybe transferred to a center. This "center" can be read on a **service facility**. Please also note Figs. 1-3 and column 3, lines 43 – 60 for description of the "user" and "center" sides.
- Both references are in the art of error reporting and diagnosis in a printing environment. This will serve as the motivation for the combination of these two references from hereon. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to report errors to a service

facility. The motivation would be to enable technicians to see/diagnose problems remotely.

10.   Claim 10
The method of claim 9, where
- **the report includes a service procedure recommendation.**
- Hamilton does not disclose that a service procedure recommendation is included in a report. However, Maekawa, discloses in column 4, lines 35-38, that there is a PM counter that keeps track of part usage, and if the parts need replacement. Please also note Figs 22 and 25 in which "measure to be taken" is provided with errors that have occurred.
- One skilled in the art would understand that one can simply note information from this counter if a part replacement would be a likely solution to a malfunction.

11.   Claim 11
The method of claim 10, where
- **the service procedure is a part replacement.**
- See claim 10 above.

12.   Claim 12
The method of claim 1, where
- **the processor is accessible via an Internet connection.**
- Hamilton does not explicitly disclose that there is an internet connection in his system. However, from claim 9 above, Maekawa discloses the use of a telephone network as a means of communication. One of ordinary skill knows that the Internet is a well-known means of communication that could be accessed using a plurality of devices.

19.   Claim 19
A computer-implemented method of enabling the user of a printer system to diagnose a malfunction of the printer system using a processor, the method comprising the steps of:
- **communicating a description of one or more symptoms of the malfunction to the processor;**
- **comparing the described symptoms to a database ~~correlating~~ relating descriptions of symptoms ~~with~~ of known printer system malfunctions;**
- **identifying the malfunction most likely to produce the described symptoms; and**
- **reporting the most likely malfunction to the user.**
- This claim is essentially the same as claim 1, with the exception of the second limitation which uses a database. As mentioned above, in the rejection to claim 13, the Maekawa reference discloses the use of a database for comparing errors.

Please see claim 1 for the motivation for the combination of the Hamilton and Maekawa references.

20.   Claim 20
The computer-implemented method of claim 19, where
- **the processor is directly or indirectly linked to the printer system, and the description of one or more symptoms of the malfunction is a printer system error log.**
- Hamilton discloses the monitoring of the printing system as discussed in claim 1 above. In order to monitor, one knows that there has to be some connection (i.e. **direct or indirect link**).

III.   Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Maekawa et al (U.S. Patent No. 5,386,271 – "Maekawa") in view of Hamilton et al (U.S.

Patent No. 5,200,958 – "Hamilton").

15.   Claim 15
The system of claim 14, where
- **the printer system is configured to record an error log, and where collection of the description of one or symptoms of a present printer system malfunction includes downloading the error log from the printer system.**
- The Maekawa reference does not explicitly disclose the use of an error log. However, as mentioned above in claim 2, the Hamilton reference discloses the use of fault logs. The downloading can simply mean the transferring of the log from the printer system to a computer. The Maekawa reference can support this through the telephone network used for communication between the "user" and "center" sides.
- Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have an error log transfer mechanism. The motivation would be to allow easy comparison of errors with items in a database.

16.   Claim 16
The system of claim 15, where
- **comparing the one or more symptoms of a present printer system malfunction to the database correlations includes comparing the error log to the database correlations.**

- Please note the discussion of the second limitation of claim 13 above. Although it is not explicitly stated to compare the error log, it would make sense to one of ordinary skill in the art to do so since error logs provide detailed explanations of errors that have occurred.
- The examiner would also like to note that the comparison of symptoms with known causes is widely used in many aspects (i.e. technicians compare symptoms with known system problems, doctors compare symptoms with known diseases, etc.)

17.   Claim 17
The system of claim 13, where
- **reporting the most appropriate malfunction includes electronically transmitting a report.**
- Maekawa discloses in Fig. 22 and column 12, lines 57-62 that a report is displayed. One skilled in the art would know that such a report can be sent to a user if needed. The motivation would be to allow a user to see possible solutions to a error that has occurred. Also note the rejection to claim 8 above.

18.   Claim 18
The system of claim 13, where
- **reporting the most appropriate malfunction includes a service procedure recommendation.**
- Maekawa, discloses in column 4, lines 35-38, that there is a PM counter that keeps track of part usage, and if the parts need replacement. One skilled in the art would understand that one can simply note information from this counter if a part replacement would be a likely solution to a malfunction. Please also note Figs. 22 and 25 in which "measure to be taken" is provided with errors that have occurred.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Yixing Qin whose telephone number is (571)272-7381.

The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Coles can be reached on (571)272-7402. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

YQ

EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER